

Work Order ID 143368

Monday, March 21, 2016 9:57:12 AM

143368

Page 1

Item ID: D4176-1

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: 429 Clamp, Top

Start Date: 4/18/2016 Start Qty: 8.00

8

Cust Item ID:

Required Date: 4/22/2016 Req'd Qty: 8.00

8

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D4176	B								

105

0.00

105

Purchasing

Memo

0.00

Purchasing

ISSUE PO 31764
CUT PER DRWG D4176 REV.B

8

MAR 21 2016

DAS
13
9-89

115

Receive & Inspect for Damage & Mat'l Certs

0.00

115

Packaging

Memo

0.00

Packaging

Ex SP16-a-d

125

QC5- Inspect part completeness to step on W/O

0.00

125

QC

Memo

0.00

Quality Control

③

DAS
38
9-89
APR 04 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

Work Order ID 143368

Monday, March 21, 2016 9:57:12 AM

143368

Page 2

Item ID: D4176-1 Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: 429 Clamp, Top
 Start Date: 4/18/2016 Start Qty: 8.00 ***8*** Cust Item ID:
 Required Date: 4/22/2016 Req'd Qty: 8.00 ***8*** Customer:
 Reference:

Approvals: Process Plan: Date: Tooling: Date: Run Start ***NR1***
 QC: Date: SPC (Y/N): Date: Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	Form as per dwg	0.00							
130									
Brake NC	Memo	0.00							
Brake NC									
135	<i>waterjet - open holes per drawing</i>								
140	QC5- Inspect part completeness to step on W/O	0.00							
140									
QC	Memo	0.00							
Quality Control									
150	Identify as per dwg & Stock Location: <u>ST514</u>	0.00							
150									
Packaging	Memo	0.00							
Packaging									

DAS
30
9-89

APR 06 2016

DAS
38
9-89

APR 12 2016

P.T.O.

8 MCJ 1604-12

DQA:

Date: 16.05.16



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed:

Date: 16/05/16

Work Order update only ☐

Work Order: <u>143368</u> Part No. <u>D4176-1</u> NCR No. <u>16-5694</u>		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☒ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Cross tube ☐ Water Jet ☐ Engineering ☐ Machining ☐ Small Fab ☐ Prod. Eng. Coord. ☐ Quality ☐ Thermoforming ☐ Finishing ☐ Rec/Store/Packaging ☐ Other ☐ Large Fab ☐ Composite ☐ Supplier ☒			
Date: <u>16-04-11</u>		Step #: <u>105</u>		QTY Effective: <u>8</u>		MRB (QSI042) Approval DAS 22 16.04.11 9-89	
Description Work Order Deviation				Disposition			
Some issue dimension where found not to drawing. Ref. to F.A.I. R.C. supplier				Use as is No issue with mating parts			
				Completed By DAS 9 9-89 16-04-11 Lead hand / Supervisor Approval Verification DAS 38 9-89 APR 17 2016 QC / QA Coordinator Approval DAS 38 9-89 APR 12 2016			
Root Cause Environment ☐ No Re-verification ☐ Design ☐ Operator ☐ Doc/Data ☐ Offset/Set up ☐ Equip/Tooling ☐ ☒ Supplier Handling/Pre ☐ Training ☐ Material ☐ Use for Testing ☐ Internal Transport ☐ Poor Information ☐ Tribal Knowledge ☐ Rushing ☐ LOA ☐ Product Improvement ☐ Substation ☐ Process Improvement ☐ Past Expiry Date ☐ Manufacturing Process ☐ Misidentified ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Temperature/Cure ☐ Power Loss/Surge ☐ Positioned Wrong ☐ Bending ☐ Set-up ☐ Folio/Program ☐ ☒ Outside Dimensions Centre Not Concentric ☐ BOM/Route ☐ Grain ☐ Over/Under tolerance Cracks ☐ Broken/Damage/Defect ☐ Weld ☐ Part Incorrect Crimp/Kink/Ripple/Wave ☐ Inspection Incomplete/Unqualified ☐ Wrong Stock Pulled ☐ Part Lost/Missing Cuffs ☐ Contamination ☐ Out of Sequence ☐ Part Moved Crushing ☐ Countersink ☐ Off-set ☐ Drawing Heat Treat ☐ Cut Too Short ☐ Mislabeled ☐ Finish Wave/Twist in Tube ☐ Instructions Incomplete/Unclear ☐ Fit/Function ☐ Misread Marks/Chatter ☐ Drill Holes ☐ Misaligned/off center ☐ Turning Sequence					
		OTHER: ☐					

Work Order ID 143368

Monday, March 21, 2016 9:57:12 AM

143368

Page 3

Item ID: D4176-1

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: 429 Clamp, Top

Start Date: 4/18/2016 Start Qty: 8.00

8

Cust Item ID:

Required Date: 4/22/2016 Req'd Qty: 8.00

8

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

160

QC21- Final Inspection - Work Order Release

0.00

160

QC

Memo

0.01

Quality Control

MLJ APR 12 2016MLJ APR 12 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Description Work Order Deviation		Disposition			

Root Cause			FAULT CATEGORY		
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____			
Misidentified ☐	Past Due ☐				

Picklist Print

Monday, March 21, 2016 9:57:12 AM

Page 1 / 1

Work Order ID: 143368

143368

Parent Item: D4176-1

D4176-1

Parent Item Name: 429 Clamp, Top

Start Date: 4/18/2016

Required Date: 4/22/2016

Start Qty: 8.00

Required Qty: 8.00

Comments: IPP Rev:A 10.09.29 new issue DD verf:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D4176-1P		Purchased	No				Each	0.0000		8			
D4176-1P									**				
429 Clamp, Top													
M304S14GA		Purchased	No			100	sf	39.8500	0.0403	0.339369			
M304S14GA									**				
304SS sheet .080													

8X SP/6-04-01

DAS
13
9-89

APR 01 2016

Location

Loc Qty

Loc Code

MAT019

39.85

M129972

39.85

m134604

DQA: _____ Date: _____

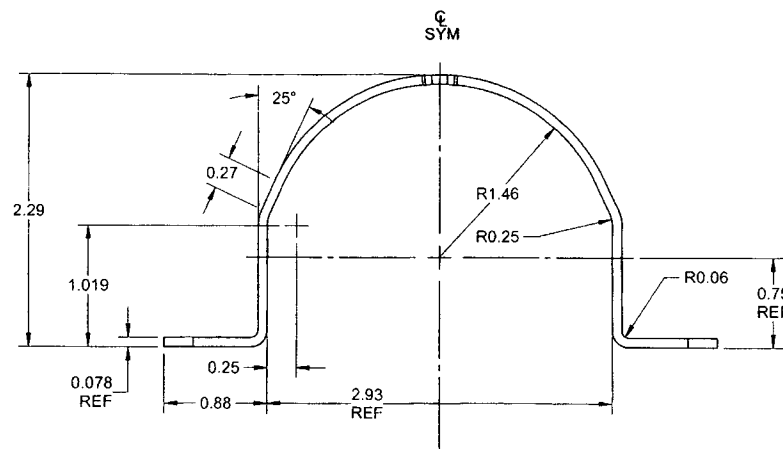
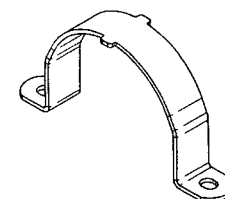
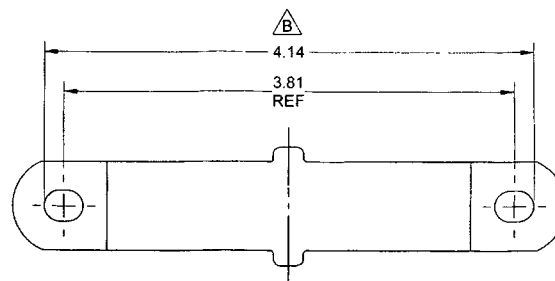


WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : _____					



D4176-1 429 CLAMP, TOP

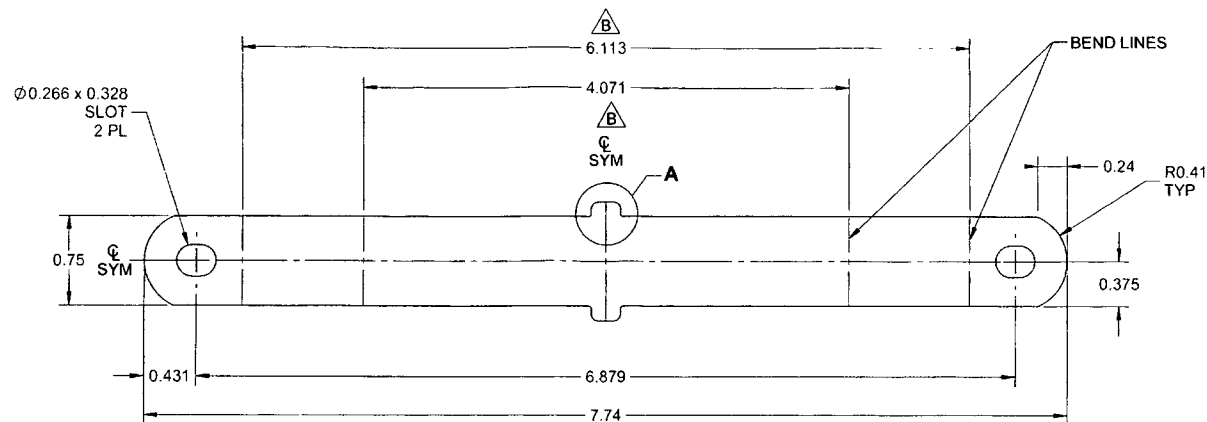
- NOTES:**
- 1) MATERIAL: MAKE FROM D4176-1F
 - 2) FINISH: NONE
 - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
 - 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D4176-1" PER QSI 044 6.1
 - 7) WEIGHT: 0.13 lbs

STOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO 143368 MCL
16-03-17

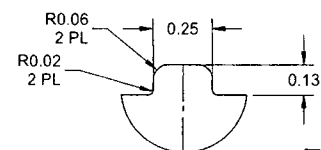
RELEASED
2015 MAY 22
A.Q. ECN 15-567

B	ADD CUSHION RETENTION DETAILS REASON: PAR 14-331, NCR 14-3521	VS	15.04.24
A	NEW ISSUE	MB	10.09.27
REV.	DESCRIPTION	BY	DATE
DESIGN	DB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA DRAWING NO. D4176 REV. B SHEET 1 OF 4 TITLE 429 CLAMP SCALE NTS COPYRIGHT © 2010 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	
DRAWN	VS		
CHECKED	RF		
MFG. APPR.	DD		
APPROVED	HS		
DE APPR.	DS		
DATE	15.04.24		

APPROVED



D4176-1F 429 TOP CLAMP FLAT PATTERN



DETAIL A
2 PL

RELEASED

2015 MAY 22

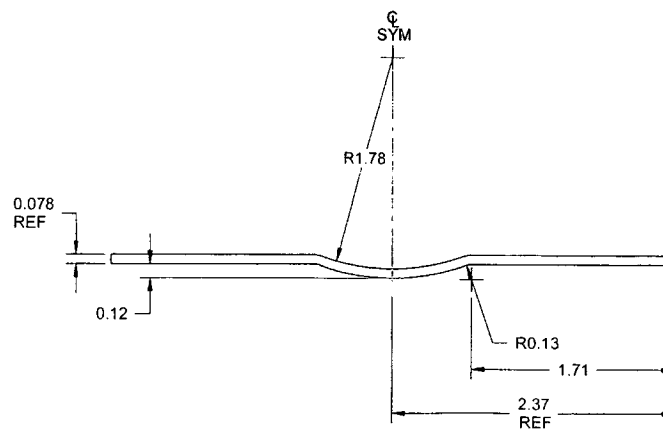
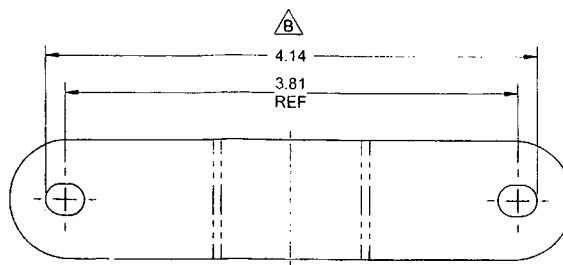


NOTES:

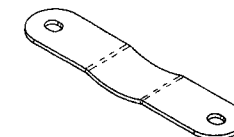
- 1) MATERIAL: AISI 304/316 STAINLESS STEEL SHEET ANNEALED 2B FINISH, 14 GAUGE (0.078 THICK)
PER AMS 5513 (304) OR 5524 (316) OR ASTM A240 OR ASME SA240
REF. DART SPEC. M304S14GA
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.13 lbs

APPROVED

DESIGN	DB	DART AEROSPACE LTD	
DRAWN	VS	HAWKESBURY, ONTARIO, CANADA	
CHECKED	RF	DRAWING NO.	REV. B
MFG. APPR.	DD	D4176	SHEET 2 OF 4
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	429 CLAMP	NTS
DATE	15.04.24	COPYRIGHT © 2010 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD	



D4176-3 429 CLAMP, BOTTOM



RELEASED
P.P. 2015 MAY 22

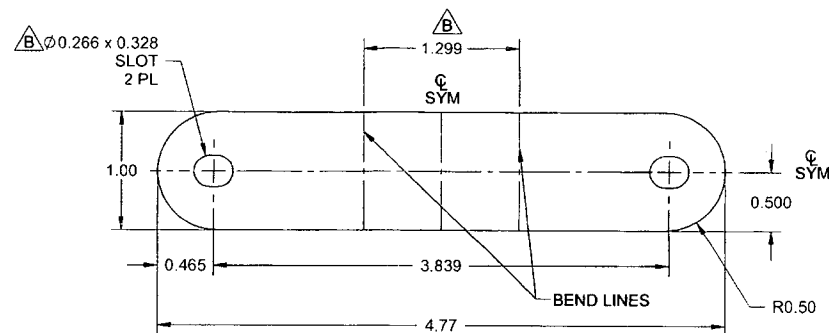
B

NOTES:

- 1) MATERIAL: MAKE FROM D4176-3F
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D4176-3" PER QSI 044 6.1
- 7) WEIGHT: 0.08 lbs

APPROVED

DESIGN	DB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	VS		
CHECKED	RF	DRAWING NO.	REV. B
MFG. APPR.	DD	D4176	SHEET 3 OF 4
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	429 CLAMP	NTS
DATE	15.04.24	COPYRIGHT © 2010 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD	



D4176-3F 429 BOTTOM CLAMP FLAT PATTERN

RELEASED

18 MAY 22

B

NOTES:

- 1) MATERIAL: AISI 304/316 STAINLESS STEEL SHEET ANNEALED 2B FINISH, 14 GAUGE (0.078 THICK)
PER AMS 5513 (304) OR 5524 (316) OR ASTM A240 OR ASME SA240
REF. DART SPEC. M304S14GA
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.08 lbs

APPROVED

DESIGN	DB	DART AEROSPACE LTD	
DRAWN	VS	HAWKESBURY, ONTARIO, CANADA	
CHECKED	RF	DRAWING NO.	REV. B
MFG. APPR.	DD	D4176	SHEET 4 OF 4
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	429 CLAMP	NTS
DATE	15.04.24	COPYRIGHT © 2010 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD	



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO31764**

Purchase Order Date 3/21/2016
PO Print Date 3/21/2016

Page Number 2 of 11

Order From :

VC-TPI001

TPI INDUSTRIES INC.
148 RUE GOODFELLOW
DELSON, QUEBEC J5B 1V4
CANADA

Ship To : DART AEROSPACE LTD
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name

Vendor Phone 450-633-0484

Ship To Contact

Ship To Phone

Ship Via:

Ship Acct:

Buyer

Chantal Lavoie

Customer POID

Customer Tax # 10127-2607

Terms

Net 30

Currency

CAD

FOB

Destination-Collect

3	D3637-1P ✓	Bracket	4/6/2016 Yes 4/6/2016	FN	12.00 ✓ Each	\$4.50	\$54.00	
CUT AS PER DWG D3637 REV. B B142872 MATERIAL 304 SHEET 14 GA							Line Total:	\$54.00
4	D2585P ✓	Latch Clamp	4/6/2016 Yes 4/6/2016	FN	65.00 ✓ Each	\$2.40	\$156.00	
CUT AS PER DWG D2585 REV. B B142882 MATERIAL 304 SHEET 14 GA							Line Total:	\$156.00
5	D4176-1P ✓	429 Clamp, Top	4/6/2016 Yes 4/6/2016		8.00 ✓ Each	\$5.25	\$42.00	
CUT AS PER DWG D4176 REV. B B143368 MATERIAL 304 SHEET 14 GA								

Note:

3/21/2016

Sp16-04-01

T.P.I. INDUSTRIES INC.

148 GOODFELLOW
 DELSON, QUÉBEC J5B 1V4
 CANADA
 Tel: (450) 633-0484
 Fax: (450) 633-0879

Packing Slip

Packing Slip No.: 7436
 Date: 2016-03-29
 Page: 1

Sold to:	Ship to:
Dart Aerospace Chantal Lavoie 1270 Aberdeen Hawkesbury, Ontario K6A 1K7 Canada	Dart Aerospace Chantal Lavoie 1270 Aberdeen Hawkesbury, Ontario K6A 1K7 Canada
Order No.: 31764	Sold By: JONATHAN LESSARD
Shipped By:	Ship Date: 2016-03-30
Tracking No.:	

Item No	Unit	Description	Quantity
D2281 ✓		jack saddle ✓	80 ✓
D2585 ✓		latch clamp ✓	65 ✓
D3637-041 ✓		bracket assy ✓	12 ✓
D4060-1 ✓		ski clamp ✓	132 ✓
D4176-1 ✓		429 clamp ✓	8 ✓
d2232-3 ✓	Chaque	d2232-3 basket hinge ✓	15 ✓
d2581 ✓		mounting bracket ✓	68 ✓
D3191-1 → D3198-1 ✓		fitting ✓	10 ✓
D3405-041 ✓		ground handling lug ✓	32 ✓
D3405-043 ✓		ground handling lug ✓	6 ✓
d3561-1 ✓	Chaque	d3561-1 seal insert tool ✓	6 ✓
d3912-5 ✓	Chaque	d3912-5 eyebolt plate ✓	30 ✓
d4021-1 ✓	Chaque	d4021-1 handle plate ✓	14 ✓
d4148-1 ✓	Chaque	d4148-1 crosstube lug plate fwd ✓	44 ✓
d4149-1 ✓	Chaque	d4149-1 crosstube lug plate aft ✓	20 ✓
d4150-3 ✓	Chaque	d4150-3 arm plate ✓	8 ✓
d4151-1 ✓	Chaque	d4151-1 lower hardpoint plate ✓	40 ✓
d4151-3 ✓	Chaque	d4151-3 upper hardpoint plate ✓	42 ✓

Sp/6 ai-ol

Comment: Net / 30 from date of invoice 2% svc. chg. on invoices over 30 days

THYSSENKRUPP MATERIALS NA

DART AEROSPACE

STAINLESS STEEL SHEET 304L-2B DUAL GRADE
 .1200 Nom X 48.0000" X 96.0000"
 PART NO.

PO/Rel 31741

We certify that this is a true copy of the report
 furnished by the producer of the metal, or data
 resulting from tests made in approved labs.

Certificate of Mill Test Results

BL PEC-983229-002

21Mar16
 Pg 1/1

Signed by: 



METALLURGICAL TEST REPORT

North American Stainless Canada Inc.
 740 Imperial Road North
 Guelph, ON N1K1Z3
 Canada

740 Imperial Road North

Certificate: 117938 1

Customer: 007206 001

Mail To:
 THYSSENKRUPP MATERIALS
 2821 LANGSTAFF ROAD
 CONCORD, ON L4K5C6

Ship To:
 THYSSENKRUPP MATERIALS
 2821 LANGSTAFF ROAD
 CONCORD, ON L4K5C6

Date: 11/26/2015 Page: 1

Steel: 304/304L

Finish: 2B

Corrosion: ASTM A262/14;180Bend-OK

Your Order: PEC271093

NAS Order: WN 0072789 07

PRODUCT DESCRIPTION:

STAINLESS STEEL COIL, C.R. ANNEALED & PICKLED. UNS 30400/30403
 ASTM A240/15a,A480/14b,A666/15;ASME SA240/13,SA480/13,SA666/13
 CHEM ONLY ON FOLLOWING ASTM: A276/13,A479/13a,A484/13a,A312/13
 CHEM ONLY ON FOLLOWING ASME: SA312/13,SA479/13
 AMS 5511H/5513J XMRK; MIL-5059D AMD3(X CRN MEAS); MIL-4043B
 NACE MR0175/ISO 15156-3:2009 A, MR0103/07;QGS766D-A X MAG PERM
 MIN. SOLUTION ANNEAL TEMP 1900F, WATER QUENCHED

REMARKS:

Mat'l is Free of Mercury Contamination. No weld repairs.
 EN 10204:2004 3.1; RoHS 1 & 2 Compliant
 Material is Free of Radioactive Contamination
 Steel Making Process: EAF, AOD, & Cont. Casting
 Product Mfg.by a Quality Mgt.Sys. in Conf. w/ISO 9001
 *Melted & Manufactured in the USA; Mat'l is DFARS Compliant

Product Id	Coil #	Skid #	Thickness	Width	Weight	Length	Mark	Pieces	Commodity Code
02X2A3 DA	02X2A3 D		.1163	48.0000	4.970	SHEETS	096.00	32	

Lab Accreditation Bureau, ISO/IEC 17025, Certificate# L2323

CHEMICAL ANALYSIS CM(Country of Melt) ES(Spain) US(United States) ZA(South Africa) JP(Japan) Chemical Analysis per ASTM A751/08

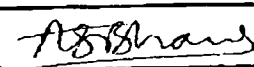
HEAT	CM	C %	CR %	CU %	MN %	MO %	N %	NI %	P %	S %
X2A3	US	.0270	18.2380	.3950	1.7650	.3735	.0830	8.0045	.0340	.0010
SI %										
.2375										

MECHANICAL PROPERTIES

MECHANICAL PROPERTIES							
Product Id#	Coil #	1 d o i c r	UTS KSI	20C .2% YS KSI	20C ELONG %-2"	% Hard RB	Tail Hard
02X2A3 DA	02X2A3 D	F T	92.66	44.92	51.32	86.00	87.00

NAS hereby certifies that the analysis on this certification is correct. Based upon the results and the accuracy of the test methods used, the material meets the specifications stated. These results relate only to the items tested and this report cannot be reproduced, except in its entirety, without the written approval of NAS.

Technical
 Dept. Mgr.


 ABHIJEET BHAVE

11/26/2015

STAINLESS STEEL SHEET 304L-2B DUAL GRADE
.0750 Nom X 48.0000" X 120.0000"
PART NO.

We certify that this is a true copy of the report furnished by the producer of the metal, or data resulting from tests made in approved labs.

21Mar16
Pg 1/1

Signed by



No.600,Xinglong St., Jiaxing Yi., Gangshan Dist.,
Kaohsiung City 82057, Taiwan (R.O.C)

Date: JAN. 12, 2015

Page : 1/1

Specification/Steel Grade : DIN EN 10028-7 1.4301/1.4307_C
Surface Finish : Rn.2B

1. We hereby certify that material described herein has been manufactured and tested with satisfactory results in accordance with the requirement of the above material specification.
2. The material described above has been detected with free irradiation.
3. VUSCO has established a QMS according to ISO 9001, which is certified by DNV CERT (reg.-no. 0058-2002-AQ-PGC-KVA)
4. Inspection and gauge measurement: Satisfactory
5. The report can only be reproduced in full.
6. This certificate complies to 3.1/DIN EN 10204:2005.
7. The tests including "Tensile Test", "Intergranular Attack" (i.k. TEST) have been accredited by A2LA/TESTING CERT #0958.02).

F. A. Huang

Doc No. 220730 Indexed 4Nov15 by slssup1